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ABSTRACT

The paper describes a prevocational training program for primary age trainable and severely retarded students. Three goals were established: to improve fine motor skills, visual perception and cognitive skills, and work habits and attitudes. Ten tasks (including stuffing envelopes and toy car assembly) were chosen and task analyzed. Results of a 7 year old's performance on a work sample test indicated that the student learned best by using a total teaching format, that verbal reinforcement was the most effective approach, and that the student exhibited great motivation. (CL)

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PRE-VOCATIONAL TRAINING PROGRAM

FOR THE SEVERELY HANDICAPPED

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Pre-vocational training can begin orienting primary age trainable and severely retarded labeled students toward the building of skills so they can develop a larger repertoire of competencies by adolescence. The following pre-vocational program was developed for primary age trainable and severely retarded labeled students at Bostwick Center, Bostwick, Georgia.

NEEDS ASSESSMENT

Several problems arose that had to be assessed in order to meet the needs of each individual student. Selecting appropriate pre-vocational tasks, setting where training takes place, cooperation among staff members, and selecting pre-vocational tasks that will generalize throughout school, work, and home situations are just a few of the many factors that were involved in the planning and development of the program.

In selecting appropriate pre-vocational skills, it is important to incorporate fine motor skills that will be helpful in performing daily living tasks as well as pre-vocational tasks. The tasks that are chosen should also include skills that will generalize throughout school, home and work situations.

The instructional setting is another variable that deserves a great deal of attention. Manual skill training can be difficult without a table chair combination that is size appropriate. Such physical limitations of the instructional setting could obstruct the development of a pre-vocational training program.

RATIONALE

Within pre-vocational curriculum, core skills or competencies are taught which would contribute to the students present needs. A pre-vocational task such as assembling a ball point pen involves the training of the pincer grasp. This basic skill trained by the teaching of a pre-vocational task could then be

used in a dressing skill such as lacing a shoe. Pre-vocational training therefore provides not only the development of core skills or competencies but it also provides this training within structured systematic instruction that is sequential.

The severely handicapped deserve the right to full participation in society. Through pre-vocational and later vocational training the handicapped person can be helped to develop manual work skills that can lead to gainful employment.

GOALS

The building and training of pre-vocational skills will produce continuing skill development in many areas.

These areas include:

1. Improvement of fine motor skills
2. Improvement of visual perception and cognitive skills
3. Improvement of work habits and appropriate work attitudes

TEACHING STRATEGY

Ten tasks were chosen for this pre-vocational project. Each task was then task analyzed. (The task were broken into teachable steps.) Baseline data was taken on each task. Instruction was then implemented by using backward chaining and/or a total task teaching format. The proceeding task analysis and lesson plan are samples of the program.

1. Folding paper
2. Stuffing enveloped
3. Car assembly
4. Ink pen assembly

Task Name: Folding Paper

Instructional Objective: Given a 7"x12" piece of paper the student will correctly fold the paper by thirds, without assistance for five of five trials.

Materials: 7"x12" blank paper

Core Tasks: Pincer grasp, bilateral hand activity, poking and pointing with index finger

Task Analysis:

1. student graps left bottom edge of paper from stack with left hand using the pincer grasp
2. student folds paper in direction away from body 1/3 of the length of the paper
3. student places fingers on folded edge
4. student presses edge down flat to make crease
5. student repeats steps 2-4
6. student picks up folded paper using pincer grasp
7. student places folded paper in stack with other folded papers

Task Name: Stuffing Envelopes

Instructional Objective: Given a prefolded paper and a 7" size envelope, the student will correctly stuff the envelope with the paper, without assistance five out of five times.

Materials: Prefolded by thirds 7"x12" paper and 7" size envelopes

Core Tasks: Stablizing hands, lateral pinch, crossing midline

Task Analysis:

1. student grasps envelop flap up with left hand
2. student picks up envelop
3. student lifts flap of envelop with right hand
4. student releases left hand from envelop
5. student places left thumb on opening edge of envelop
6. student releases right hand from envelop
7. student grasps one folder paper with right hand
8. student inserts one folder paper into envelop
9. student places stuffed envelop in pile with other stuffed envelopes.

Note: The folding paper task and stuffing envelope task will be incorporated into one skill.

Task Name: Eight piece toy car assembly

Instructional Objective: Given an eight piece toy car, the student will independently assemble one car without errors or assistance five out of five trials.

Materials: Tupperware toy car, (three to a box), $7.00

Core Tasks: Bilateral hand activity, fingertip pinch, stablizing hands

Task Analysis:

1. student grasps 1 car body
2. student places car body on its side perpendicular to students body
3. student grasps yellow axle
4. student places axle in vertical position
5. student places axle directly over left axle hole
6. student lowers axle into axle slot
7. student repeats steps 3-6 using right axle hole
8. student grasps rim of 1 red wheel with thumb and index finger
9. student holds wheel parallel to working surface
10. student places center hole of wheel directly over left axle hole

11. student releases wheel
12. student presses wheel down onto axle using palm of right hand
13. student repeats steps 8-11 using right axle end
14. student grasps ends of car body with both hands
15. student turns car over in direction away from body onto top side
16. student releases car
17. student grasps top ends of car
18. student turns car in direction away from body onto side of car
19. student repeats steps 8-11
20. student grasps ends of car with both hands
21. student turns car in direction away from body with car sitting upright
22. student grasps man with pincer grasp with head facing upright
23. student places man in center hole of car body
24. student places completed car into group with other cars

Task Name: Assembling an ink pen

Instructional Objective: Given a disassembled plactic cased ball point pen, the student will correctly assemble the pen, without assistance for five of five trials.

Materials: Plastic cased ink pens, purchased in packs of 10 at K-Mart for $ .99.

Core Tasks: Pincer grasp, voluntary release, unilateral hand activity by holding with one hand and inserting with other.

Task Analysis:

1. student removes one of each piece from sorting bins
2. student grasps bottom of pen case with left hand with open end up
3. student grasps pen spring with right hand using pincer grasp
4. student holds spring in verticle position
5. student places spring inside bottom of pen case
6. student grasp pen ring with right hand
7. student places ring of pen onto end of pen case
8. student grasps pen cartridge with right hand
9. student puts pen cartridge into pen case
10. student grasps top of pen case
11. student places top of pen case onto pen bottom
12. student crews pen top onto pen bottom by twisting top to the right
13. student presses top of pen in order to turn off

Task Name: Assembling an ink pen

Instructional Objective: Given a disassembled plastic cased ball point pen, the student will correctly assemble the pen, without assistance for five of five trails.

Materials: Plastic cased ink pen, sorting board.

A. Initial Presentation

The student is seated at the work table with the teacher seated to the left of the student. A sorting board with ten disassembled pens is placed directly infront of student. Given the cue "Patsy, put the pen together," the student is to take out (from slot) one piece of the pen at a time and place it on the designated spot of the sorting board moving from left to right. Cue cards with pictures of pen parts will be used initially to show where to place each part. The student should then begin putting the pen together by moving in a left to right fashion. If the student is going to error, the teacher intervenes with a firm "Stop" or "No", before the student completes the error. At this time the "MORE" strategy is used with physical assistance being provided first, then demonstration, then verbal assistance as each is required. Initially, continuous secondary reinforcement will be provided for each completed step of task analysis. This will be reduced to intermittent reinforcement and the cue cards will be faded out as the student acquires the skill.

B. Instruction and Practice

Instruction will be given on a one to one teacher - student ratio. Materials for each training session will be readily available and within easy reach of the learner.

The training session will be done on a daily basis and will last twenty minutes initially. The training period will gradually increase in time as the student develops appropriate work skills, ie: increasing time on task. The student will continue working on the task until criterion is met. Criterion for the task of assembling an ink pen is the completion of the task correctly for five of five trial sessions.

C. Evaluation

Evaluation procedures begin by recording baseline data for three consecutive trails. A plus (+) is recorded on the data sheet if the learner correctly performs a step. A minus (-) is recorded if the learner incorrectly performs a step.

During the training of the task, the level of the cue (1-4 Project MORE) will be recorded for each step within the task analysis. Data will be taken at the end of each training session, ie: on the last pen to be assembled for that training session.

Once the task has been learned, the following information will be assessed:

1.) The number of units within a designated time period

2.) The number of errors per unit completed

3.) Frequency of on - task behavior

Note: Sample data sheets are attached.

D. Generalization

Once criterion for assembling an ink pen is met, the student then proceeds to the production phase of the project. At this stage the student is to demonstrate the ability to accurately perform the task, as well as complete a designated number of pens within a specific time period. Also, appropriate work habits and attitudes should be displayed during the production period.

RESULTS

A work sample was constructed on the assembly of a five piece cartridge ink pen. A seven year old female labeled trainable mentally retarded was chosen for the work sample. The task was broken into a 13 step task analysis. During the pre-test the student correctly completed 6 of the 13 steps. It took 6 training sessions with 10 trials in each for the students to meet criteria for mastery on the task.

The student learned best using a total task teaching format. Verbal reinforcement was found to be most effective with this individual student. The student exhibited great motivation in the correct completion of a unit. Her motivation continued as long as she was successful in assemblying the ink pen. Due to this the teacher is careful to assist the student from having the opportunity for error.

Assembling an ink pen

Students Name: Patsy

Date	Pre-test	2-19	2-20	2-21	2-25	2-26	2-27
Step 1.	−	−	−	−	−	+	+
Step 2.	+	+	+	+	+	+	+
Step 3.	+	+	+	+	+	+	+
Step 4.	+	+	+	+	+	+	+
Step 5.	−	+	+	+	+	+	+
Step 6.	−	−	+	+	+	+	+
Step 7.	−	+	−	+	+	+	+
Step 8.	+	+	+	+	+	+	+
Step 9	+	+	+	+	+	+	+
Step 10.	+	+	+	+	+	+	+
Step 11.	−	+	+	+	+	+	+
Step 12.	−	−	−	+	−	−	+
Step 13.	−	−	+	+	+	+	+

NAME Patsy TASK Assembling Ink Pens

DATE	SET #	# ERRORS	# PROMPTS	HANDWAVING	COMMENTS
2-26	17	0	11	0	Hard worker today!
2-27	17	2	111	0	3 reminders to stay on task
2-28	17	0	1	0	Good work today
2-29	25	0	0	0	
3-5	25	0	0	0	
3-10	25	0	1 0	0	
3-11	25	0	0	0	

DATE	TASK	TIME START	TIME STOP	UNITS COMPLETED	COMMENTS
2-26	Ink Pens	1:09	1:20	17	no errors
2-27	Ink Pens	1:00	1:09	17	2 errors
2-28	Ink Pens	1:01	1:12	17	no errors
2-29	Ink Pens	1:08	1:20	25	no errors
3-5	Ink Pens	1:05	1:21	25	no errors
3-10	Ink Pens	12:36	12:50	25	no errors
3-11	Ink Pens	1:05	1:14	25	no errors